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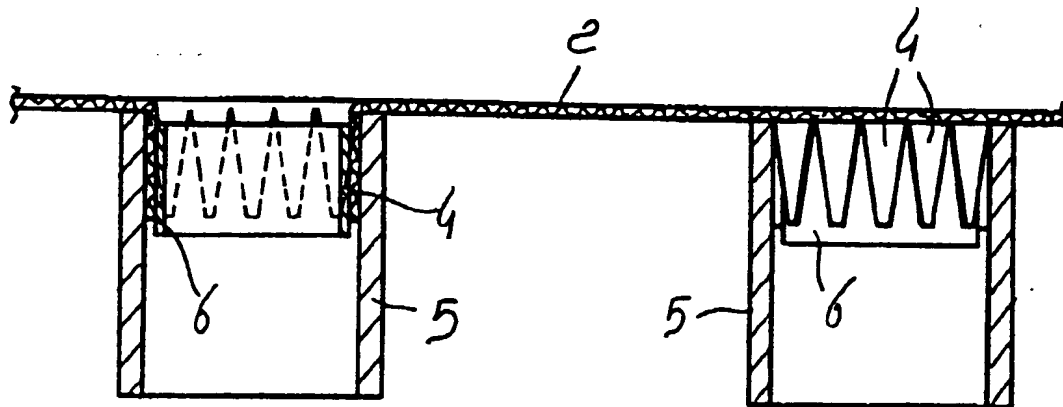
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(54) Pallet made of corrugated cardboard

(57) Pallet with at least one layer of corrugated cardboard able to form the loading surface (2) of the board in which openings (3) are obtained, in correspondence to the opportunely dislocated zones, with fins (4) distributed along the edge forming a type of rim, respective

tubular elements (5) destined to constitute the support feet of said board are coupled to said fins (4), said fins (4) being retained, with the interposition of suitable glues, between each tubular element (5) and a respective coaxial locking coupling (6) to said tubular element (5).

FIG.2



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Description

The present invention has a board in corrugated cardboard as object.

As already noted, boards used as platforms for transport and movement of goods have somewhat high costs both for the choice of material used (generally wood), and that for relative complexity of the assembling. Additionally the recycling of material of the un-used platforms is difficult to carry out.

The technical task of the present invention is to propose a platform having a structure that allows the realization using cardboard layers, in particular corrugated cardboard.

In the field of such task an aim of the present invention constitutes the realization of a board that results in a simpler assembly and therefore economically more advantageous.

Such task and such aim are reached with a board characterized in that it comprises at least one corrugated cardboard layer able to form the loading surface of the board in which openings are obtained, in correspondence with the opportunely dislocated zones, with fins distributed along the edge forming a type of rim, respective tubular elements destined to constitute the support feet of said board are coupled to said fins, said fins being retained, with the interposition of suitable glues, between each tubular element and a respective coaxial locking coupling to said tubular element.

Further particularity of the present invention will result mainly from the description that follows on the basis of the attached drawing, in which:

fig. 1 shows a perspective view of the board according to a first realization shape;
fig. 2 shows a view according to the section surface II-II of fig. 1;
fig. 3, 4, 5 and 6 show the variations;
fig. 7 shows a perspective view of a board according to an additional realization shape;
fig. 8 shows a section view according to the surface - VIII of fig. 7.

Initially referring to figures 1 and 2, 1 generically indicates the board according to the present invention.

It is made up of one loading surface 2 of rectangular form constituted by a layer of corrugated cardboard single or multi-layers depending on the resistance that one wishes to confer to the board. In the loading surface, in correspondence to the opportunely dislocated zones, openings 3 are provided, obtained by means of star incisions of the layer and folding of the triangular fins 4 defined by such incisions perpendicularly to the surface of the layer, in order that the fins form a type of rim along the edge of the openings 3.

The triangular fins 4 are folded against the internal wall of cylindrical tubular elements 5 constituting the support feet of the board. The fins are solidarized to the tubular elements 5 by means of the interposition of suitable glue to apply with hot or cold processing.

Advantageously to assure a greater adhesion of fins 4 to the tubular elements 5 locking couplings are provided 6 that inserted in the openings 3 push the fins 4 against the internal wall of the tubular elements 5, avoiding the possible detachment.

Opportunely the top of the tubular elements 5 corresponds under the layer in order that the fins 4 are not stressed with cuts from the heavy load on the board.

As is recognized the board described perfectly reaches the aims proposed. The application of the coupling 6 is of fundamental importance that other than maintaining the fins 4 locked, constitutes a mechanical stiffening of the connecting zone of the tubular elements 5 to the layer 2 particularly stressed when the board, during the moving operations, undergoes side pushes.

The described board is susceptible to numerous modifications and variations all re-entering in the inventive concept.

Figure 3 shows a variation in which the locking coupling, indicated with 7, has length equal to that of the tubular element 5. Between the coupling 7 and the tubular element 5 an interspace remains individuated in which a complementary shell section may be inserted.

In the form of fig. 4 the tubular element 8, having the function of board foot support, is inserted inside the rim of the fins, whilst the locking coupling 9 is on the outside.

The variation of fig. 5 reuses the construction of figures 1 and 2 with the addition of a reinforcement ring 10 inserted into the tubular element 5 and corresponding under the coupling 6.

In the board, according to the invention, it is possible to predispose a loading surface composed of many superimposed layers. With this purpose, see fig. 6, under the loading surface 2 according to the realization of fig. 3 a further layer 10 is placed carved in order to form fins 11 able to adhere on the tubular element 5 and blocked by an exterior shell 12.

With the same criteria further layers are applicable to the boards in versions of figures 4 and 5.

A further illustrated realization form in figures 7 and 8 provides that the upper layer has two edges 13 and 14 reversible on the same layer for the closing of the opening 3. The edges 13 and 14 are obtained from the same layer by means of weaken lines that allow its turning. Naturally it is also possible to provide a single edge of the sizes of the layer, in place of two.

The edges can be fixed to the underlying layer by means of sticking or application with fixing means like staples and the like, so to obtain a particularly robust loading surface. In order to confer greater sturdiness at the support feet the application of cross-pieces 15 is provided, connecting tubular elements 5 between them. As shown better in fig. 8 and analogously with that provided for loading surface, every cross-piece 15 is composed of a single or multi-layered corrugated cardboard strip in which, by means of star incisions, fins 16 are obtained which are able to be refolded and secure inside the tubular elements 5 before the application of the internal locking coupling 17.

The cross-pieces 15, other than representing a valid stiffening against the bending stresses due to the load, avoid the support feet sticking into the soil during the dragging movements.

In the realization practice of the invention the forms and sizes as well as the materials used could be any depending on the requirements.

For example the tubular elements could be of polygonal section and composed preferably but not exclusively of spiralled cardboard.

Claims

1. Board characterized in that at least one layer of corrugated cardboard able to form the loading surface of the board in which openings are obtained, in correspondence to the opportunely dislocated zones, equipped with fins distributed along the edge forming a type of rim, respective tubular elements destined to constitute the support feet of said board are coupled to said fins, said fins being retained, with the interposition of suitable glues, between each tubular element and a respective coaxial locking coupling to said tubular element.
2. Board according to claim 1 characterized in that said fins are inserted and secured inside said tubular elements and said locking couplings are inserted inside said fin rims (Fig. 2 and 3).
3. Board according to claim 1 characterized in that said tubular elements are inserted and secured inside said fin rims and said coupling are superimposed one upon another with said fin rims (Fig. 4).
4. Board according to one of the preceding claims characterized in that under the loading surface a further layer is placed having incisions able to form fin rims able to adhere on said tubular elements or locking coupling, on said fin rims are superimposed one upon another respective locking shells (Fig. 6).
5. Board according to one or more of the preceding claims characterized in that it comprises connection cross-pieces of the tubular elements, in which fin rims are obtained, able to come through refolded on the inside of the bottom of said tubular elements, said fins being ensured by said locking manifold (Fig. 7, 8).
6. Board according to one or more of the preceding claims characterized in that the cardboard layer constituting said loading surface presents at least one reversible edge on the layer itself and fixable to the latter by fixing means (Fig. 7,8).
7. Board according to one or more of the preceding claims characterized in that said tubular elements and said locking couplings form the interspaces (Fig. 3 and 6) or positions (Fig. 5) for the insertion of rings or shells.
8. Board in cardboard according to that inferred from the description and drawings.

FIG.1

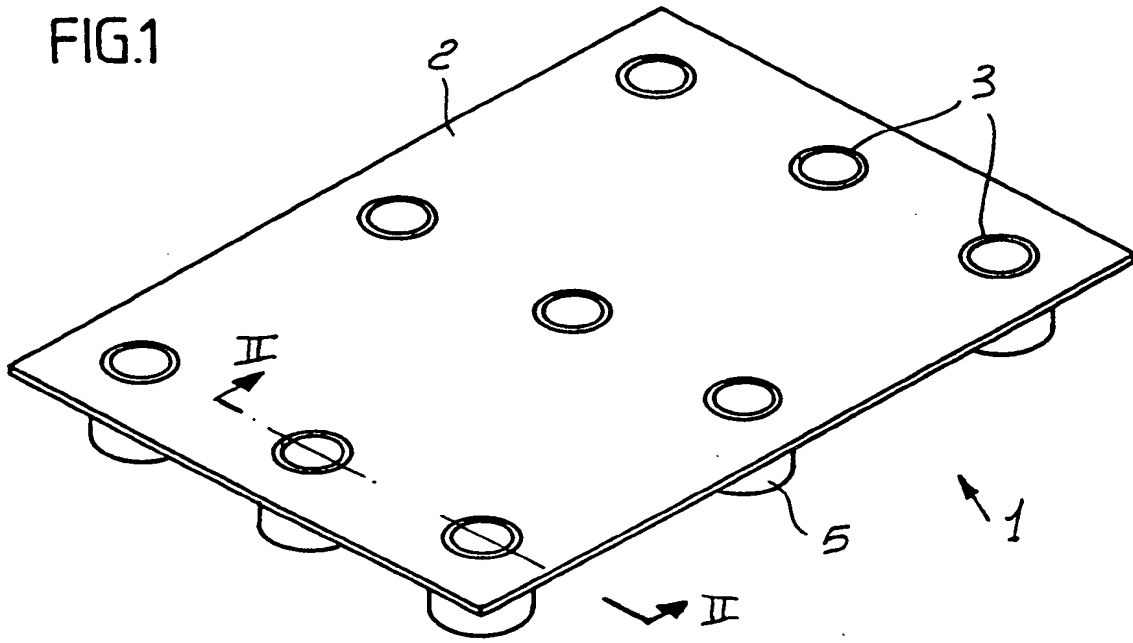


FIG.2

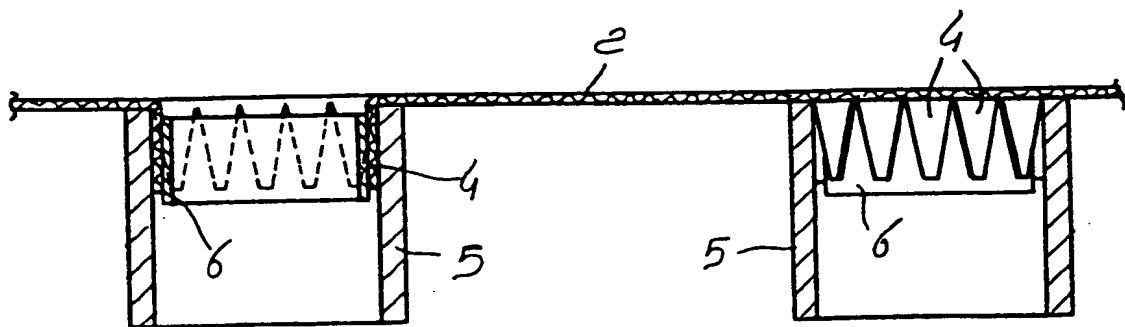


FIG.3

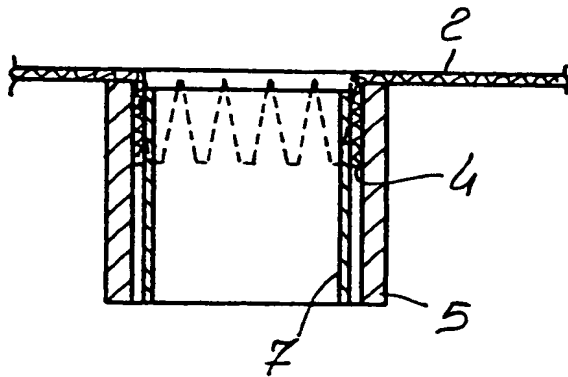


FIG.4

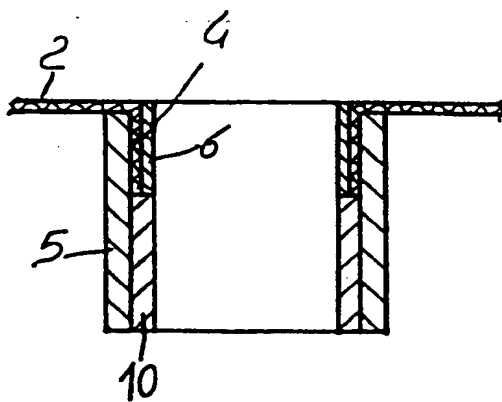
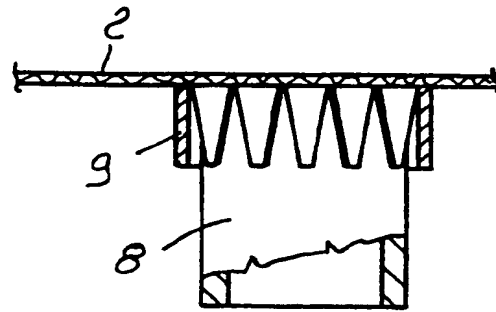


FIG.5

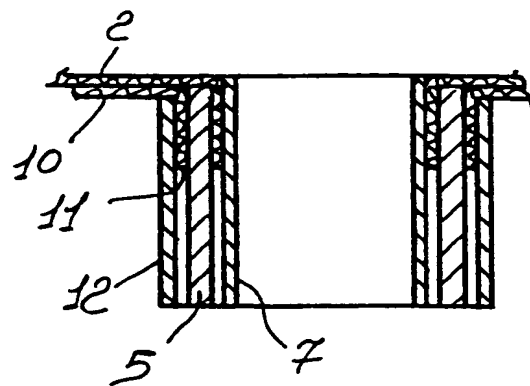
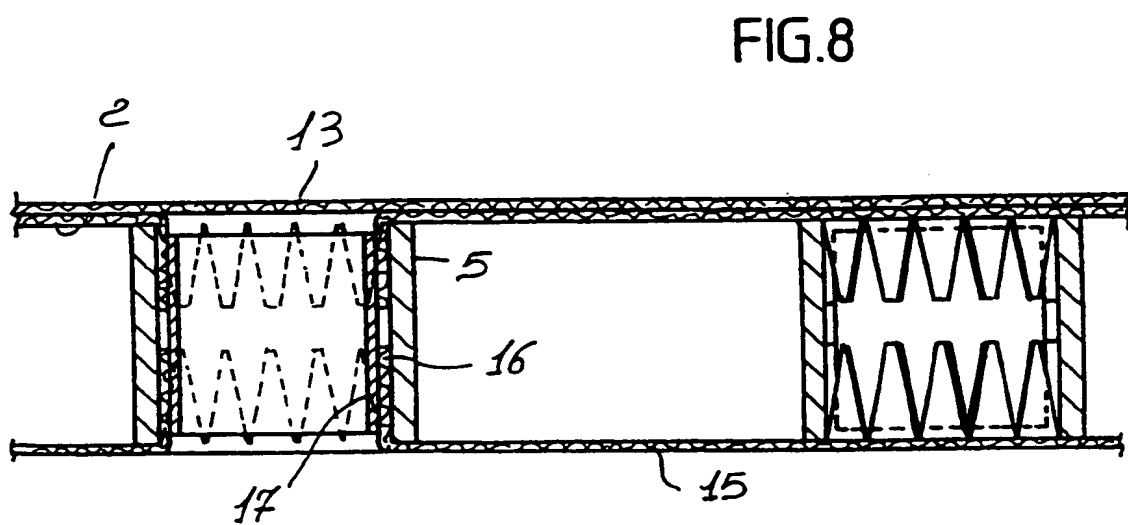
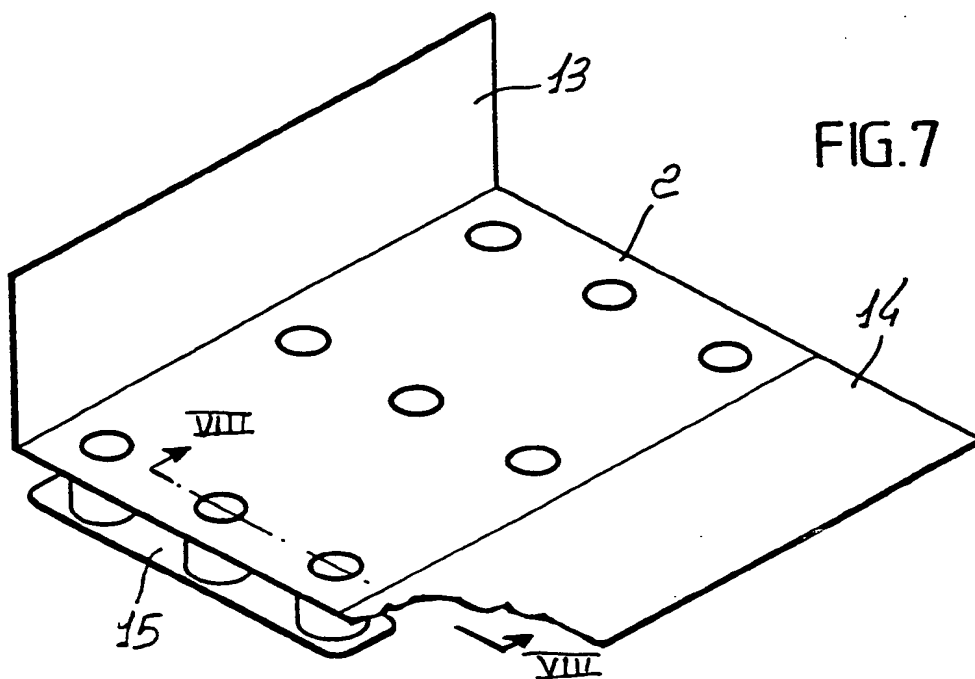


FIG.6





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EUROPEAN SEARCH REPORT

Application Number
EP 95 10 9941

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE-U-91 01 921 (KAWELL GMBH) 27 June 1991 * page 3 - page 7; figures 1-4 *	1-4,6,8	B65D19/00 B65D19/34 B65D19/40
X	US-A-2 507 588 (BRANDON) 16 May 1950 * column 2, line 26 - column 5, line 17; figures 1-10 *	1-3,5,7,8	
X A	US-A-4 850 284 (DEGROOT) 25 July 1989 * column 5, line 30 - column 8, line 40; figures 1-15 *	1-3,5,8 4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6) B65D
Place of search THE HAGUE		Date of completion of the search 9 October 1995	Examiner Vollering, J
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